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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* OLAF TURNER, DIRK ROSENAU, and TORSTEN SCHLAAFF

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Appeal 2008-3094<sup>1</sup>  
Application 10/007,899  
Technology Center 2100

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Decided:<sup>2</sup> April 30, 2009

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Before LANCE LEONARD BARRY, JEAN R. HOMERE, and STEPHEN  
C. SIU, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> Filed November 5, 2001. The real party in interest is Francotyp-Postalia GmbH, a German Corporation, as successor to Francotyp-Postalia AG & Co. KG.

<sup>2</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1 through 3 and 5 through 14. The Examiner indicates that claim 4 would be allowable if rewritten in independent form to include the limitation of the base claim and any intervening claims. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

*Brief Summary of the Invention*

Appellants invented a postage meter machine, encased by a security barrier that allows replenishing of battery capacity with minimal outlay and maximum protection against manipulation. (Spec. 4.) In particular, Figure 1 depicts the postage security device having a security region (10) and a non-security region (14). (Spec. 6, ll. 5-6.) A first battery (134) is located in the security region (10) to ensure emergency power supply. (Spec. 6, ll. 6-8.) A second replaceable battery (140) is located in the non-security region (14) to serve as an auxiliary power supply. (Spec. 6, ll. 8-11.) Further, a monitoring unit (21) monitors voltage information relating to the second replaceable battery (140) and activates the battery switchover device (18). (Spec. 4, ll. 4-15.) Depending on the voltage information gathered by the monitoring unit (21), the battery switchover device (18) activates and channels power from the second battery (14) to the security components located in the security region (10). (Spec. 4, ll. 15-16.) Consequently, the second battery (140) lengthens the service life of the first battery (134), thereby significantly increasing the service life of the postage security device. (Spec. 4, l. 16, through spec. 5, l. 2.) Since the second replaceable battery (140) is located in the non-security region (14), it relieves the user

from having to access the security region (10) to replace the first battery (134). (Spec. 5, ll. 3-4.)

*Illustrative Claim*

Independent Claim 1 further illustrates the invention. It reads as follows:

1. An electronic device comprising:

a security region containing a plurality of security components, said security region being surrounded by a mechanical security barrier to normally preclude physical access to said security components;

a power source adapted for connection to a mains voltage for normally supplying power to said security components;

a first battery disposed in said security region with physical access to said first battery also being normally precluded in said security barrier;

a second battery disposed outside of said security region for supplying power to said security components upon an outage of said mains voltage;

a battery switchover device having a first input connected to said first battery and a second input connected to said second battery for switching power supply to said security components from said second battery to said first battery only if power from said second battery is absent; and

a monitoring unit disposed in said security region and connected to said battery switchover device for evaluating voltage information associated with at least one of a voltage of said first battery and a voltage of said second battery.

*Prior Art Relied Upon*

The Examiner relies on the following prior art as evidence of unpatentability:

Naclerio	WO 99/48055	Sept. 23, 1999
Yoshimura	US 5,650,974	Jul. 22, 1997
Wiley et al. ("Wiley")	US 6,073,085	Jun. 6, 2000
Fang et al. ("Fang")	US 5,128,552	Jul. 7, 1992

*Rejections on Appeal*

The Examiner rejects the claims on appeal as follows:

1. Claims 1, 5-11, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Naclerio and Yoshimura.
2. Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Naclerio, Yoshimura, and Wiley.
3. Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Naclerio, Yoshimura, and Fang.

*Appellants' Contentions*

1. Appellants contend that the Examiner erred in finding that the combination of Naclerio and Yoshimura renders independent claim 1 unpatentable. In particular, Appellants argue that there is no basis for a person of ordinary skill in the art seeking to address the same problem as Appellants' to consult Yoshimura. (App. Br. 5-10.)
2. Appellants contend that the Examiner erred in finding that the combination of Naclerio, Yoshimura, and Wiley renders dependent claims 2 and 3 unpatentable. In particular, Appellants argue that there is insufficient rationale to combine Naclerio, Yoshimura, and Wiley. (*Id.* at 12-13.)
3. Appellants contend that the Examiner erred in finding that the combination of Naclerio, Yoshimura, and Fang renders dependent claims 12

and 13 unpatentable. In particular, Appellants argue that Fang does not provide a rationale to monitor voltage to determine if and when an unperformed need exists to replace a second battery. (*Id.* at 13-14.)

*Examiner's Findings and Conclusions*

1. The Examiner avers that the combination of Naclerio and Yoshimura renders independent claim 1 unpatentable. In particular, the Examiner finds that Naclerio's disclosure of a tamper-resistant postal security device addresses the same problem as Appellants' because it prevents internal manipulation of the device. (Ans. 10.) Further, the Examiner finds that Yoshimura's disclosure of using a second external battery to extend the life of a first internal battery addresses the same problem as Appellants' because it lengthens the service life of the first battery. (*Id.* at 11.)

2. The Examiner concludes that the combination of Naclerio, Yoshimura, and Wiley renders dependent claims 2 and 3 unpatentable. In particular, the Examiner finds that the rationale to combine Naclerio, Yoshimura, and Wiley is explicit in Wiley. (*Id.* at 13.)

3. The Examiner concludes that the combination of Naclerio, Yoshimura, and Fang renders dependent claims 12 and 13 unpatentable. In particular, the Examiner finds that the teachings of Fang would have suggested to an ordinary skilled artisan that power can be conserved by monitoring a second replaceable battery and altering the power of operating components accordingly. (*Id.* at 14.)

## II. ISSUE

1. Have Appellants shown that the Examiner erred in concluding that an ordinary skilled artisan would have found sufficient rationale to combine the disclosures Naclerio and Yoshimura to teach a first battery in a security region and a second battery in a non-security region, as recited in claim 1.

2, Have Appellants shown that the Examiner erred in concluding that an ordinary skilled artisan would have found sufficient rationale to combine the disclosures of Naclerio, Yoshimura, and Wiley to render dependent claims 2 and 3 unpatentable?

3. Have Appellants shown that the Examiner erred in concluding that an ordinary skilled artisan would have found sufficient rationale to combine the disclosures of Naclerio, Yoshimura, and Fang to render dependent claims 12 and 13 unpatentable?

## III. FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

### *Appellants' Invention*

1. As depicted in Figure 4, the electronic device, such as a mail processing unit, a postage meter machine, or a computer, has a security region (100) and a non-security region (14). (Spec. 6, ll. 5-6.)

2. The first battery (134) is located in the security region (100) of the electronic device and is not accessible to the user. (Spec. 6, l. 24 through spec. 7, l. 1.)

3. The second battery (140) is positioned in the non-security region (14), preferably in an external accessible battery compartment. (Spec. 10, ll. 11-13.)

4. The second battery (140) lengthens the life of the first battery (134), thereby increasing the service life of the electronic device. (Spec. 4, l. 23 through spec. 5, l. 2.)

5. The stored data within the security region (100) is protected against manipulation because the second replaceable battery (140) is located in an accessible battery compartment. (Spec. 5, ll. 3-4.)

*Naclerio*

6. Naclerio discloses a postal security device (“PSD”) that is used for printing “encrypted indicia” postage. (1, ll. 24-25.) The PSD has a secure housing that contains the accounting registers and cryptographic engine. (1, ll. 25-26.)

7. As illustrated in Figure 1, the large Random Access Memory (“RAM”) (16) and other active components contained within the PSD (10) receive external power (21). (5, ll. 3-4.)

8. The smaller RAM (14) contained within the PSD (10) is capable of receiving power from a backup battery (15). (5, ll. 4-5.)

9. The PSD design protects the many important items of data stored within while utilizing minimal battery power. (4, ll. 1-3.)

*Yoshimura*

10. As illustrated in Figure 1, Yoshimura discloses an easily manufactured, compact, and economically practical portable-type semiconductor memory device containing a main battery (BAT 1) and



auxiliary battery (BAT 2) that prevents data loss when the power from a host apparatus is cut off. (Col. 5, ll. 43-55.)

11. The portable-type semiconductor memory device contains a replaceable first battery (BAT 1) that is typically used as the main battery and a second battery (BAT 2) that backs up the memory (3) during replacement of the first battery (BAT 1). (Col. 2, ll. 20-24; col. 8, ll. 45-63.)

12. The portable-type semiconductor memory device contains a switching block (13) that cooperates with switches SW3, SW4, and SW5 to switch between allowing the second battery (BAT 2) to be charged and allowing the second battery (BAT 2) to back up the memory (3) during replacement of the first battery (BAT 1). (Col. 9, l. 59, through col. 10, l. 15.)

13. A sensing block (11) monitors the presence of the first battery (BAT 1) as the main battery. (Col. 9, ll. 50-52.) When the first battery (BAT 1) is pulled out for replacement, the sensing block (11) output signals accordingly. (Col. 9, ll. 52-57.)

*Wiley et al.*

14. As illustrated in Figure 1A, Wiley discloses a portable electronic unit (50) that contains an analog-to-digital (“A/D”) converter (115) that receives and digitizes analog signals from various components and inputs them to the main CPU (111). (Col. 5, ll. 18-22.)

15. The A/D converter (115) works in conjunction with the battery voltage/charging circuit (131) to monitor the voltage of batteries A and B. (Col. 5, ll. 22-29.)

16. The portable electronic unit (50) contains a visual display (117), such as a flat liquid crystal display panel, and a display processor (116) coupled to a CPU (111). (Col. 5, ll. 40-54.)

17. Simple and quick executable self-tests are performed on the electronic device to insure that the equipment is functioning properly and reliable for its intended use. (Col. 1, l. 35, through col. 2, l. 24.)

*Fang et al.*

18. As illustrated in Figure 1, Fang discloses a method and system for providing reliable power supply for a personal health monitor, whereby various components (25) are monitored by the controller (16). (Col 5, ll. 25-37, and col. 6, ll. 7-29.) The personal computer (25d) works in conjunction with that voltage detector (30) to measure the operating voltage of the personal health monitor. (Col. 7, ll. 13-16.) The voltage level is measured directly through a connection to the outputs of the switching power supply (“SPS”) (18) and the battery (22). (Col. 7, ll. 16-20.) The personal computer (25d) utilizes data converted from the respective voltage readings to shut off the power from the battery (22) when the battery (22) drops to or below 5.4 volts. (Col. 7, ll. 20-31.)

19. When the AC power is disrupted, the voltage drops down to approximately 3.0 amps loading and the battery (22) can continue to operate the personal health monitor for approximately 2 hours. (Col. 6, ll. 30-41.) If the battery (22) drops below 5.4 volts, the controller (16) disconnects most of the components, including the personal computer (25d), so the battery (22) can conserve power. (Col. 6, ll. 50-53.)

20. Fang discloses a method and system for providing reliable power supply to a personal health monitor, thereby reducing requirements on

the battery during power outages and conserving battery power so that minimal essential operations and data can be maintained. (Col. 4, ll. 1-13.)

#### IV. PRINCIPLES OF LAW

##### Burden on Appeal

“On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of prima facie obviousness or by rebutting the prima facie case with evidence of secondary indicia of nonobviousness.” *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

##### Obviousness

A claimed invention is not patentable if the subject matter of the claimed invention would have been obvious to a person having ordinary skill in the art. 35 U.S.C. § 103(a); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 3 (1996).

Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’

*KSR*, 550 U.S. at 405.

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham*, 383 U.S. at 17-18. *See also KSR*, 550 U.S. at 407

(“While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.”).

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” and discussed circumstances in which a patent might be determined to be obvious without an explicit application of the teaching, suggestion, motivation test. 550 U.S. at 415.

In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248” *id.* (citing *Graham*, 383 U.S. at 12); and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 417. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

If the claimed subject matter cannot be fairly characterized as involving a simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement, a holding of obviousness can be based on a showing that

“there was an apparent reason to combine the known elements in the fashion claimed.” *Id.* at 418. Such a showing requires the Examiner provide “some articulated reasoning” in the rejection, which possesses a “rational underpinning to support the legal conclusion of obviousness.” *Id.* (quoting *Kahn*, 441 F.3d at 988). The Supreme Court citing *Kahn* stated that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418. However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

It is a basic principle that the question under 35 U.S.C. § 103 is not merely what the references expressly teach but what they would have suggested to one of ordinary skill in the art at the time the invention was made. *See Merck & Co. Inc., v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989).

Nor is it necessary that suggestion or motivation be found within the four corners of the references themselves. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference ... Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). “The obviousness analysis cannot be confined by the formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on

the importance of ... the explicit content of issued patents.” *KSR*, 550 U.S. at 419.

Consistent with *KSR*, the Federal Circuit recently recognized that “[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not.” *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was “uniquely challenging or difficult for one of ordinary skill in the art” or “represented an unobvious step over the prior art.” *Id.* at 1162.

#### Teaching Away

“What the prior art teaches and whether it teaches toward or away from the claimed invention ... is a determination of fact.” *Para-Ordnance Mfg., Inc. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1088 (Fed. Cir. 1995). “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Teaching an alternative or equivalent method, however, does not teach away from the use of a claimed method. *In re Dunn*, 349 F.2d 433, 438 (CCPA 1965).

## V. GROUPING OF CLAIMS

Appellants argue claims 1, 5 through 11, and 14 as a first group. Further, Appellants separately argue the rejection of claims 2 and 3 as a second group. Additionally, Appellants argue the rejection of claims 12 and 13 as a third group. In accordance with 37 C.F.R. § 41.37(c)(1)(vii), claims 1, 5 through 11 and 14, 2 and 3, 12 and 13 stand and fall with claims 1, 2, and 12 respectively. We will separately address the rejections of claims 1, 2, and 12.

## VI. ANALYSIS

### *Claims 1, 5-11, and 14*

Independent claim 1 recites in relevant parts (1) a security region containing a plurality of security components, (2) a first battery disposed in the security region with physical access precluded, and (3) a second battery disposed outside the security region for supplying power upon a power outage. As set forth in the Findings of Fact section, Naclerio discloses a postal security device (PSD) that is encased by a secure housing. (FF 6.) Further, Yoshimura compliments Naclerio by disclosing a second battery (BAT 2) that backs up the memory during the replacement of the first battery (BAT 1). (FF 11.) We find that Naclerio and Yoshimura disclose prior art elements that perform their ordinary functions to predictably result in a tamper-resistant electronic device that utilizes an external battery to extend the life of an internal battery. *See KSR*, 550 U.S. at 418-419.

Assuming *arguendo* that the Examiner must articulate some additional reasoning for combining the references, the Examiner provides ample reasoning for the proffered combination. In particular, the Examiner

explained that it would have been obvious to one of skill in the art at the time of the invention to modify Naclerio's tamper-resistant postal security device with Yoshimura's first and second batteries in order to back up memory and to prevent data loss by utilizing a second battery during loss of power or replacement of a first battery. (FF 10, 11.) As admitted by Appellants, Naclerio addresses the same problem as the claims on appeal. (App. Br. 5.) We find that Yoshimura addresses the same problem as Appellants' because the accessible, second battery lengthens the life of the first battery, thereby increasing the service life of the electronic device. (FF 4, 10, 11.) Furthermore, we find that cited references are within the relevant field of endeavor since they all pertain to the power supply of electronic devices. (FF 4, 7, 8, 10.) We therefore do not agree with Appellants that the Examiner has not provided sufficient rationale to warrant the proffered combination.

Further, Appellants argue that Naclerio teaches away from Yoshimura. (App. Br. 7.) We do not agree. Naclerio discloses that the larger Random Access Memory (RAM) and other components contained within the postal security device (PSD) receive external power. (FF 7.) Further, Naclerio discloses that the smaller RAM contained within the PSD is capable of receiving power from a back-up battery. (FF 8.) Appellants have shown nothing in Naclerio that would have discouraged a person of ordinary skill from trying to incorporate a back-up battery outside of the PSD's secure housing. Appellants have not pointed to an explicit disclosure within Naclerio stating that a second battery located outside the secure housing cannot be utilized as a back-up battery. Instead, we view Naclerio's disclosure that the smaller RAM contained within the PSD may receive



power from a back-up battery as an alternative or equivalent teaching to utilizing back-up batteries. Therefore, Appellants have not shown that Naclerio's disclosure of the smaller RAM receiving power from an internal back-up battery teaches away from the claimed second battery disposed outside the security region for supplying power upon a power outage. It follows that Appellants have not shown that the Examiner erred in concluding that the ordinarily skilled artisan would have found sufficient rationale to combine Naclerio's tamper-resistant postal security device with Yoshimura's first and second batteries in order to back up memory and prevent data loss by utilizing a second battery during loss of power or replacement of a first battery, as recited in independent claim 1.

*Claims 2 and 3*

Dependent claim 2 recites in relevant parts an analog-to-digital converter for converting voltage information into digital information. As discussed above, we find no deficiencies in the Naclerio and Yoshimura combination. As set forth in the Findings of Fact section, Wiley discloses an A/D converter that receives and digitizes analog signals. (FF 14.) We find that Naclerio, Yoshimura, and Wiley disclose prior art elements that perform their ordinary functions to predictably result in a tamper-resistant electronic device that includes a monitoring unit that comprises an analog-to-digital converter. *See KSR*, 550 U.S. at 416.

Assuming *arguendo* that the Examiner must articulate some additional reasoning for combining the references, the Examiner provides ample reasoning for the proffered combination. Particularly, the Examiner explained that it would have been obvious to one of skill in the art at the

time of the invention to modify the Naclerio and Yoshimura combination with Wiley's analog-to-digital converter in order to monitor the voltage status of a battery. (FF 15.) As discussed above, we find that Naclerio and Yoshimura address the same problem as Appellants. Furthermore, we find that cited references are within the relevant field of endeavor since they all pertain to the power supply of electronic devices. (FF 7, 8, 10, 14.) We therefore do not agree with Appellants that the Examiner has not provided sufficient rationale to warrant the proffered combination. It follows that Appellants have not shown that the Examiner erred in concluding that the ordinary skilled artisan would have found sufficient rationale to combine Naclerio and Yoshimura with Wiley's analog-to-digital converter to monitor the voltage status of a battery, as recited in dependent claim 2.

Dependent claim 3, recites in relevant parts (1) a processor that generates a signal indicating a supply status and (2) an externally visible indicator that receives the status signal and displays a visual indication. As discussed above, we find no deficiencies in the Naclerio and Yoshimura combination. As set forth in the Findings of Fact section, Wiley discloses a visual display and display processor coupled to a central processing unit. (FF 16.) We find that Naclerio, Yoshimura, and Wiley disclose prior art that perform their ordinary functions to predictably result in a tamper-resistant electronic device that includes a monitoring unit that comprises a display processor and indicator. *See KSR*, 550 U.S. at 416.

Assuming *arguendo* that the Examiner must articulate some additional reasoning for combining the references, the Examiner provides ample reasoning for the proffered combination. Particularly, the Examiner explained that it would have been obvious to one of skill in the art at the

time of the invention to modify the Naclerio and Yoshimura combination with Wiley's display processor and indicator in order to ensure that the electronic device is functioning properly and reliable for its intended use. (FF 17.) As discussed above, we find that Naclerio and Yoshimura address the same problem as Appellants and the cited references are within the relevant field of endeavor. We therefore do not agree with Appellants that the Examiner has not provided sufficient rationale to warrant the proffered combination. It follows that Appellants have not shown that the Examiner erred in concluding that the ordinary skilled artisan would have found sufficient rationale to combine Naclerio and Yoshimura with Wiley's display processor and indicator in order to ensure that the electronic device is functioning properly and reliable for its intended use, as recited in dependent claim 3.

*Claims 12 and 13*

Dependent claim 12 recites in relevant parts (1) a plurality of operating components, (2) at least one operating component connected to a processor, and (3) the processor capable of altering an operation of at least one operating component if the voltage information indicates that the second battery needs to be replaced. As discussed above, we find no deficiencies in the Naclerio and Yoshimura combination. As set forth in the Findings of Fact section, Fang discloses various components that are monitored by a controller, including a personal computer that measures the operating voltage and shuts off the power from the battery if the battery drops to or below 5.4 volts. (FF 18). We find that Naclerio, Yoshimura, and Fang disclose prior art elements that perform their ordinary functions to predictably result in a tamper-resistant electronic device that includes a

processor that monitors operating voltage and alters battery usage accordingly. *See KSR*, 550 U.S. at 416.

Assuming *arguendo* that the Examiner must articulate some additional reasoning for combining the references, the Examiner provides ample reasoning for the proffered combination. Particularly, the Examiner explained that it would have been obvious to one of skill in the art at the time of the invention to modify the Naclerio and Yoshimura combination with Fang's processor that evaluates operating voltage and alters battery usage in order to provide a reliable power supply and conserve battery power. (FF 20.) As discussed above, we find that Naclerio and Yoshimura address the same problem as Appellants. Furthermore, we find that cited references are within the relevant field of endeavor, since they all pertain to the power supply of electronic devices. (FF 7, 8, 10, 18.) We therefore do not agree with Appellants that the Examiner has not provided sufficient rationale to warrant the proffered combination. It follows that Appellants have not shown that the Examiner erred in concluding that the ordinary skilled artisan would have found sufficient rationale to combine Naclerio and Yoshimura with Fang's processor that evaluates operating voltage and alters battery usage in order to provide a reliable power supply and conserve battery power, as recited in dependent claim 12.

Dependent claim 13 recites in relevant parts that the processor prevents operation of at least one operating component after a predetermined delay if the voltage information indicates a need to replace the second battery. As discussed above, we find no deficiencies in the Naclerio and Yoshimura combination. As set forth in the Findings of Fact section, Fang discloses that if the battery voltage drops below 5.4 volts, the controller

shuts down the personal computer so the battery can conserve power. (FF 19.) We find that Naclerio, Yoshimura, and Fang disclose prior art that perform their ordinary functions to predictably result in a tamper-resistant electronic device that includes shutting down a personal computer to conserve battery power if the battery voltage drops to or below a specified voltage. *See KSR*, 550 U.S. at 416.

Assuming *arguendo* that the Examiner must articulate some additional reasoning for combining the references, the Examiner provides ample reasoning for the proffered combination. Particularly, the Examiner explained that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Naclerio and Yoshimura combination with Fang's processor that shuts down to conserve battery power once the battery voltage drops to or below a specified voltage in order to provide a reliable power supply and conserve battery power. (FF 20.) As discussed above, we find that Naclerio and Yoshimura address the same problem as Appellants and the cited references are within the relevant field of endeavor. We, therefore, do not agree with Appellants that the Examiner has not provided sufficient rationale to warrant the proffered combination. It follows that Appellants have not shown that the Examiner erred in concluding that the ordinary skilled artisan would have found sufficient rationale to combine Naclerio and Yoshimura with Fang's processor that shuts down to conserve battery power once the battery voltage drops to or below a specified voltage, as recited in dependent claim 13.

## VII. CONCLUSIONS OF LAW

A. Appellants have not shown that the Examiner erred in concluding that:

1. the combination of Naclerio and Yoshimura renders claims 1, 5 through 11 and 14 unpatentable under 35 U.S.C. § 103(a).
2. the combination of Naclerio, Yoshimura, and Wiley renders dependent claims 2 and 3 unpatentable under 35 U.S.C. § 103(a).
3. the combination of Naclerio, Yoshimura, and Fang renders dependent claims 12 and 13 unpatentable under 35 U.S.C. § 103(a).

B. We affirm these rejections.

## VIII. DECISION

We affirm the Examiner's decision to reject claims 1 through 3 and 5 through 14. No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

erc

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